

REMARKS

Amendments to the drawings, specification and claims have been presented.

Referring to the drawing amendments, in Figure 2 the light axis **212** has been rotated in order to conform to the language in the specification reciting "light source axis **212**...is advantageously parallel to tilt axes **304a-304g**." Page 7, line 7. In Figure 5 "(a, b, 0)" has been changed to $-(0, b, 0)-$ to conform the language in the specification reciting "the light source axis **212** may be considered as being coincident with the line including points $(-a, b, c)$ and $(0, b, 0)$ ". Page 7, line 16. Also in Figure 5, reference numbers **502**, **504**, and **510** have been added to correspond to the specification discussion of the micro mirror bottom edge, right edge, and lower right corner, respectively. Page 7, line 9.

In the specification, inadvertent errors have been corrected such that the references conform with the figures.

In the claims, claim 23 has been amended to include an element relating the tilt axes to the light source axis. Claim 24 has been amended to clarify "said controlling" refers to controlling the light sources.

Additionally, claims 26 and 27 have been added to claim novel subject matter originally disclosed but not yet claimed. Claims 26 and 27 are dependent upon, and incorporate the same limitations as, allowable claims 1 and 12, respectively. Thus, claims 26 and 27 are patentable for at least the same reasons.

No new matter has been added and support for the changes is found throughout the original specification.

Claim Rejections

35 USC 112 Rejection of claims 2, 13, and 24

In the Office Action claims 2, 13, and 24 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention. The Applicant respectfully traverses this rejection of these claims.

Claim 2, for example, recites:

2. The projection engine of claim 1, wherein the light sources illuminate with illumination cone angles that are expanded in a direction paralleling the first tilt axis.

Specifically, the examiner states that this “seems to imply that the DMD will receive only light from a periphery of the cone of illumination,” and asks the Applicant to clarify.

In one embodiment of this invention, having a light source with an illumination cone angle expanded in one direction may result in an elliptical illumination area at the micro mirror device. In this embodiment, the long axis of the elliptical illumination area (resulting from an expanded illumination cone angle in that direction) may be parallel with the tilt axis. If the illumination area is centered on the micro mirror device, then the micro mirror device may receive a significant portion of the illumination cone, not just the periphery.

The Examiner has also said that the direction of the expanded cone angle of Figure 2 would not be parallel to the axis. Judging from the Examiner’s statement that the “direction of the expanded cone angle would be from an LED element (r or g or b) intersecting the element 214,” it appears the Examiner is under the mistaken assumption that the anamorphic illumination of the micro mirror device must result solely from the position of the light sources relative to the micro mirror device. Referring to the specification page 8, line 1, it is clear that in “various embodiments, light sources 208 are **designed to illuminate** with illumination cone angles that are expanded in the direction parallel to tilt axis 304.” That is, it is the design of the light sources that creates the expanded cone angle, not the relative positioning of the light sources and the micro mirror device. However, other embodiments may additionally/alternatively employ other ways to provide the anamorphic illumination of the micro mirror device (e.g., by adjusting the relative positioning of the light sources and the micro mirror device).

Because this claim distinctly claims the subject matter the Applicant regards as his invention, it is respectfully requested that the Examiner withdraw this rejection of this claim.

Furthermore, claim 13 and 24 include similar limitations that also distinctly claim the subject matter regarded as the invention. The Applicant respectfully requests that the Examiner withdraw his rejection of these claims.

35 USC 102(e) rejection of claims 23 and 25

The Examiner has rejected claims 23 and 25 under 35 USC 102(e) as being anticipated by Takeda.

The Applicant has amended claim 23 to include a limitation similar to ones found in the allowed claims 1 and 12. Specifically, the additional element relates the light axis to the tilt axes. The Applicant asserts that amended claim 23 is patentably distinguishable from Takeda, for at least the same reasons as claims 1 and 12. Therefore, the Applicant respectfully requests that the Examiner withdraw this rejection of this claim.

Furthermore, claim 25 is dependent upon, and incorporates the same limitations as, claim 23. Thus, for at least the same reasons this claim is patentable over Takeda. The Applicant respectfully requests that the Examiner withdraw his rejection of this claim.

CONCLUSION AND EPILOGUE


In view of the foregoing, the Applicant respectfully submits that claims 1-27 as presented are in condition for allowance. Thus, early issuance of Notice of Allowance is respectfully requested.

If the Examiner has any questions, he is invited to contact the undersigned at (503) 796-2972.

The Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393. A Fee Transmittal is enclosed in duplicate for fee processing purposes.

Respectfully submitted,
SCHWABE, WILLIAMSON & WYATT, P.C.

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Nathan R. Maki
Registration No. 51,110

Pacwest Center, Suites 1600-1900
1211 SW Fifth Avenue
Portland, Oregon 97204
Telephone: 503-222-9981